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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,621	12/22/2000	Mitchell Paul Tasman	99-467	4581

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EXAMINER

MARCELO, MELVIN C

ART UNIT PAPER NUMBER

2662

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,621

Applicant(s)

TASMAN ET AL.

Examiner

Melvin Marcelo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 and 79-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-49, 63-75 and 81-92 is/are allowed.
- 6) ☒ Claim(s) 50, 51, 53, 57-62, 79 and 80 is/are rejected.
- 7) ☒ Claim(s) 52 and 54-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. Prosecution on the merits of this application is reopened on claims 57-62, 79 and 80 considered unpatentable for the reasons indicated below:

With respect to claims 57-62 and 80, the table on a computer readable medium does not meet the definition of a data structure for patentability under 35 USC 101.

With respect to claim 79, the claimed method is directed to non-statutory matter -- manipulation of abstract ideas.

2. The indicated allowability of claims 50, 51, 53, 57, 59, 61 and 62 are withdrawn in view of the newly discovered reference(s) to Tsuchiya (US 5,353,283 A). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 57-62, 79 and 80 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 57-62 and 80 are directed to "data structures" representing descriptive materials embodied in a computer readable medium (see MPEP 2106 IV.B.1.(a), "*claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory [under 35 U.S.C. 101]*"). However, the claimed data structure must meet the definition of "data structure" -- "*a physical or logical relationship among data elements, designed to support specific data manipulation functions*" (see MPEP 2106 IV. B. 1. citing the New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993)).

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Claims 57-62 and 80 are listed below:

Claim 57 : A mapping table maintained on a computer readable medium, said mapping table comprising a plurality of forwarding tables each of which includes routing data for a communications system having a plurality of nodes, said mapping table organized to allow selection of a forwarding table from the plurality of forwarding tables based on a type-of-service indicator.

Claim 58 : A mapping table according to claim 57, wherein the table is adapted to allow a subset of entries to be set.

Claim 59 : A mapping table according to claim 57, wherein the table is adapted to allow entries in the table to be set by a single routing manager.

Claim 60 : A mapping table according to claim 57, wherein the table is adapted to allow entries in the table to be set by multiple routing managers.

Claim 61 : A mapping table method according to claim 57, wherein the communications system routes unicast messages.

Claim 62 : A mapping table according to claim 57, wherein the communications system routes multicast messages.

Claim 79: A method of constructing routing tables in a communications system, said method comprising the steps of:

constructing a set of tables which include non-redundant information;
constructing directly indexed tables; and
linking related tables in the set of tables.

Claim 80 : A set of tables stored on a computer readable medium, the tables including a plurality of entries representing at least routing data, said set of tables comprising:
at least some directly indexed data;
non-redundant entries; and
cascading tables which are directly linked.

With respect to claims 57-60 (claims 61 and 62 depend on claim 57), these claims do not recite a positive recitation of the data manipulation functions.

In claim 57, lines 3-4, "said mapping table organized to allow selection of a forwarding table..." should be rewritten as --said mapping table organized for selecting of a forwarding table--.

In claim 58, "the table is adapted to allow a subset of entries to be set" should be rewritten as --the table is adapted for setting a subset of entries--.

In claim 59, "the table is adapted to allow entries in the table to be set by a single routing manager" should be rewritten as --the table is adapted for setting entries in the table by a single routing manager--.

In claim 60, "the table is adapted to allow entries in the table to be set by multiple routing managers" should be rewritten as --the table is adapted for setting entries in the table by multiple routing managers--.

With respect to claim 79, the claim merely recites the manipulation of abstract ideas. This method claim is directly analogous to that at issue in *In re Warmerdam*, (CAFC) 31 USPQ2d 1754. In that case, the court found the individual elements of the process claim to be mere manipulation of basic mathematical constructs ("abstract ideas"). In the current claim, each step describe nothing more than manipulation of basic mathematical constructs ("constructing a set of tables...", "constructing directly indexed tables", and "linking related tables in the set of tables"). There is no recitation that the claim produces anything more than the manipulation of these constructs.

With respect to claim 80, there is no recitation of a specific data manipulation function. Thus, it does not meet the definition of a data structure and is not patentable. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 50 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuchiya (US 5,353,283 A).

With respect to claims 50 and 57, the phrase “type-of-service indicator” is not defined in the claim. Thus, this term is given a reasonable and broad interpretation without reading limitations from the specification. Tsuchiya teaches an “identifier” which is used to select a forwarding table from a plurality of forwarding tables (column 4, lines 1-10). Tsuchiya’s “identifier” reads on “type-of-service indicator” since they both provide the same function. With respect to the claims below, references to the prior art appear in parenthesis.

Claim 50 : A method to determine a forwarding table which includes routing data in a communications system having a plurality of nodes (Tsuchiya, column 3, line 65 to column 4, line 10), said method comprising the steps of:

identifying a type-of-service indicator (Pointer pointing to a particular identifier, column 3, lines 67-68); and

selecting a forwarding table from a plurality of forwarding tables based on the type-of-service indicator (Selecting a forwarding table from a set of forwarding tables...using the identifier, column 4, lines 2-5).

Claim 57 : A mapping table maintained on a computer readable medium (Set of forwarding tables maintained in a memory at the source node, column 4, lines 3-4), said mapping

table comprising a plurality of forwarding tables each of which includes routing data for a communications system having a plurality of nodes, said mapping table organized to allow selection of a forwarding table from the plurality of forwarding tables based on a type-of-service indicator (Selecting a forwarding table from a set of forwarding tables...using the identifier, column 4, lines 2-5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 51, 53, 59, 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchiya.

Tsuchiya does not teach the particular features of these claims; however, these features appear to be obvious for the particular reasons recited below.

Claim 51 : A method according to claim 50, further comprising the step of arranging

the plurality of forwarding tables in a table (Tsuchiya provides a set of forwarding tables maintained in a memory at the source node (column 4, lines 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to organize a set of tables in a table for the reason of providing a structure to the set of tables in a memory such that the memory can be organized efficiently).

Claim 53 : A method according to claim 51, further comprising the step of setting all

entries in the table by a single routing manager (Tsuchiya does not mention any routing manager; however, a single routing manager would have been obvious since a component of the source node must provide the function of setting entries in the forwarding tables maintained in memory).

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Claim 59 : A mapping table according to claim 57, wherein the table is adapted to allow entries in the table to be set by a single routing manager (See above with respect to claim 53).

Claim 61 : A mapping table method according to claim 57, wherein the communications system routes unicast messages (Tsuchiya does not mention unicast messages; however, it would have been obvious to use unicast messages since Tsuchiya is directed to packets with a destination address header (column 3, lines 51-54), wherein a destination address directed to a single node is a unicast message).

Claim 62 : A mapping table according to claim 57, wherein the communications system routes multicast messages (It would have been obvious to use multicast messages since Tsuchiya is directed to packets with a destination address header (column 3, lines 51-54), wherein a destination address directed to multiple nodes is a multicast message).

Allowable Subject Matter

9. Claims 1-49, 63-75 and 81-92 are allowed.
10. Claims 52 and 54-56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system; contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melvin Marcelo
Primary Examiner
Art Unit 2662

July 10, 2005